REMARKS

Claim 1 has been canceled and claims 14 and 15 have been amended. Accordingly, claims 2-17 are currently pending.

Drawings

Fig. 2 has been amended to designate the circuit breaker with reference number 1. Accordingly, reference number 7 unambiguously designates the tank. See page 9, lines 5-8 of the specification for support of the drawing change, for example.

Priority

Applicants appreciate the Examiner's acknowledgment of the claim for priority.

35 U.S.C. §102 and §103

Claims 1-4 are rejected as being anticipated under 35 U.S.C. §102(b) by Okuno, U.S. Patent No. 4,810,840. Claims 14-17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Okuno in view of Roberts et al., U.S. Patent

No. 6,256,592 (Roberts). Reconsideration of the rejections is requested for the following reasons.

Claim 1 has been canceled without prejudice or disclaimer and claims 2-4 claim a combination of the invention that is not anticipated by Okuno. Claim 2 sets forth a gas insulating apparatus wherein a sensor portion of a device for measuring at least either current flowing through a line from the power inlet to the power outlet or voltage of the line is installed inside a bushing. The bushing is claimed to be installed at least either at the power inlet or the power outlet. Claim 3 also calls for the sensor portion to be installed at least either inside a first bushing or a second bushing. In claim 4, like claim 2, the sensor portion is claimed as being installed inside the bushing. As an advantage of the claimed combination set forth in claims 2-4, the size of the gas insulating apparatus can be kept to a minimum size.

Okuno discloses a dead tank circuit breaker which is provided with bushings 3, an oil-immersed capacitor 18 adjacent to one of the bushings and bushing current transformers 5. The capacitor 18 is arranged outside the bushings 3, and each of the bushing current transformers 5 is

arranged between a tank 2 and the bushing 3, however, not inside the bushing 3. Further, capacitor 13, which is inside tank 2, is not installed inside the bushing. Accordingly, Okuno does not disclose or suggest the claimed combination of claims 2-4 in which the sensor portion is claimed to be installed inside a bushing (first or second bushing in claim 3). Accordingly, 35 U.S.C. §102(b) rejection should be withdrawn.

According to claim 14, a method for locating a fault point of a gas insulating apparatus comprises measuring either current flowing through a line from a first bushing to a second bushing or measuring voltage by using the first bushing and the second bushing. As amended, claim 14 sets forth that the first and second bushings each have a sensor portion for current or voltage measurement combined therewith. Locating the fault point of the gas insulating apparatus is based on the measurement results, according to claim 14. Okuno does not disclose bushings having a sensor portion for current or voltage measurement combined therewith, as set forth in claim 14. Further, as recognized in the Office Action, Okuno does not disclose locating a fault point.

Claim 15 sets forth that the fault point is determined to be either inside or outside the gas insulating apparatus by measuring either current flowing through a line from a first bushing to a second bushing or voltage using sensors installed in the first and second bushings and comparing the signals output from the two sensors. Alternatively, in claim 15, the fault point is located in a portion of the gas insulation apparatus. Claims 16 and 17 depend from claim 15 and set forth whether the fault point is located inside or outside the gas insulating apparatus based on the consistency of polarities of the signals output from the two sensors (claim 16) or based on the difference of measuring time of the signals output from said two sensors (claim 17).

The Office Action relies upon Roberts for disclosing a system for locating a fault on a power line having first and second terminals on the power line. Selected information is obtained concerning a power signal on the power line at each of the terminal locations at the time a fault occurs. The fault location point on the power line is determined from the selected information, which includes the magnitude value of

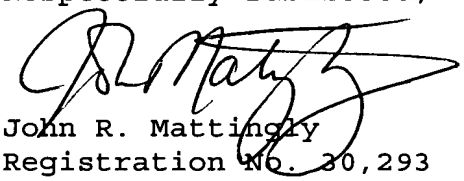
the negative sequence current and the magnitude and angle values of the negative sequence impedance.

According to the present invention, the fault location is determined with respect to whether the fault occurs inside or outside of the gas insulating apparatus (claim 15). In Roberts, on the other hand, the fault location is determined on a power line between terminals on the power line. Further, in the present invention, the fault location is detected by using sensors installed in bushings, which are not disclosed by Roberts. Accordingly, the combination of Okuno and Roberts insufficient to render claims 14-17 obvious under 35 U.S.C. §103(a) and therefore the rejection should be withdrawn.

Conclusion

In view of the foregoing amendments and remarks, Applicants contend that the above-identified application is now in condition for allowance. Accordingly, reconsideration and reexamination is requested.

Respectfully submitted,



John R. Mattingly
Registration No. 30,293
Attorney for Applicant(s)

MATTINGLY, STANGER & MALUR
1800 Diagonal Rd., Suite 370
Alexandria, Virginia 22314
(703) 684-1120
Date: September 7, 2004

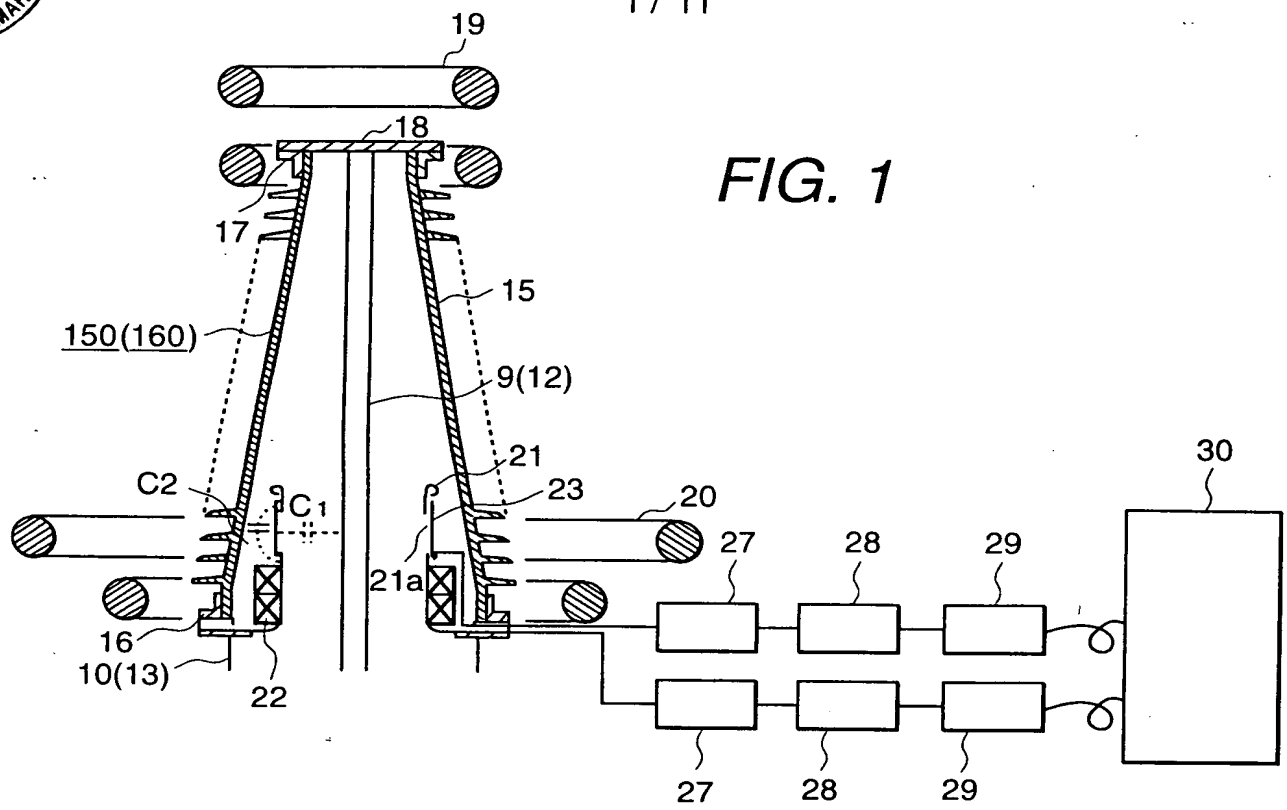


FIG. 1

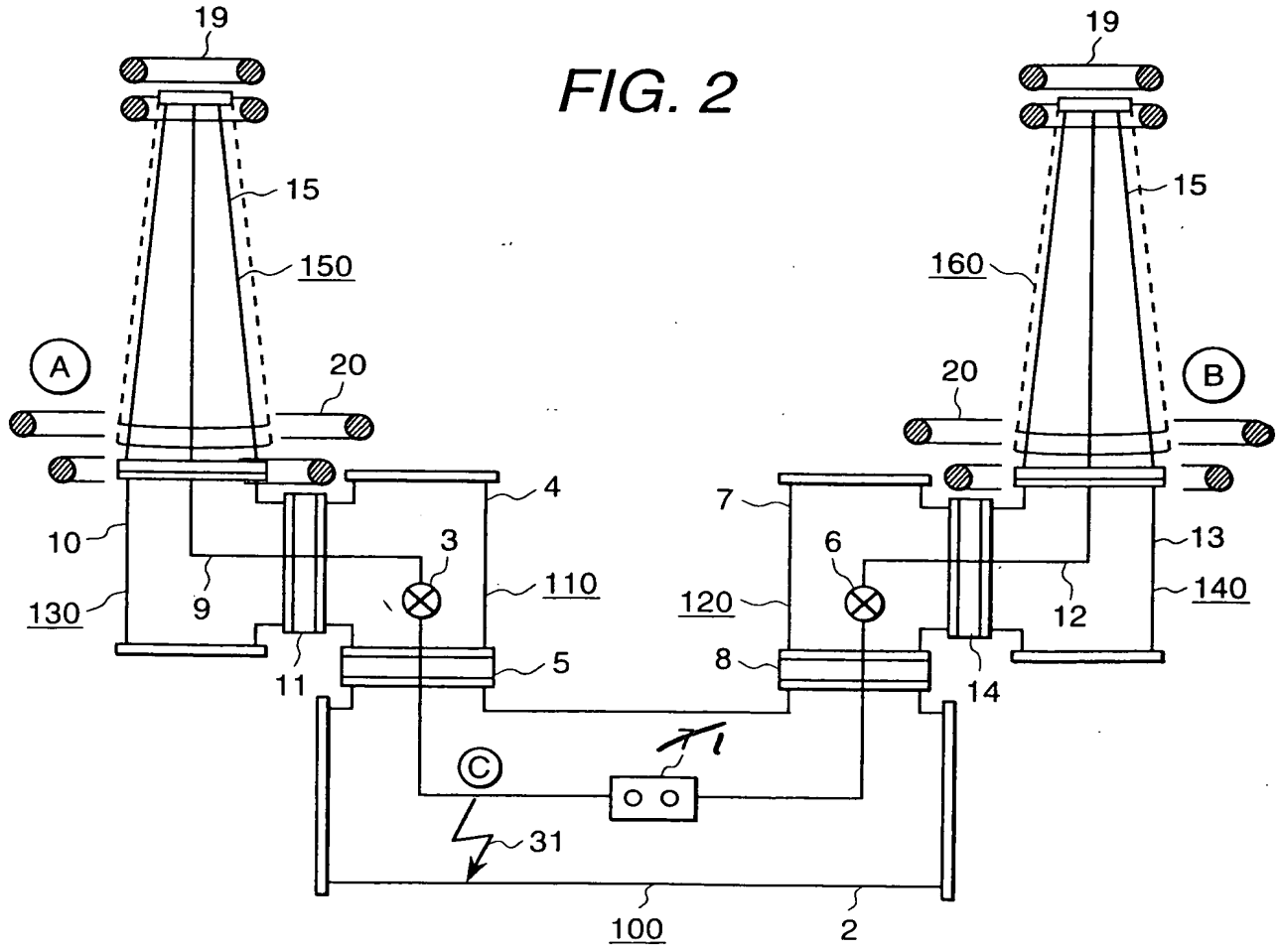


FIG. 2